6HB5

COMPACTRON BEAM PENTODE

FOR TV HORIZONTAL-DEFLECTION AMPLIFIER APPLICATIONS

DESCRIPTION AND RATING

The 6HB5 is a compactron beam-power pentode designed for use as the horizontal-deflection amplifier in television receivers.

GENERAL

ELECTRICAL

Cathode - Coated Unipotential

Heater Characteristics and Ratings

Heater Voltage, AC or DC* . . . 6.3 ± 0.6 Volts Heater Current † 1.5 Amperes

Direct Interelectrode Capacitances, approximate

Grid-Number 1 to Plate: (g1 to p) . 0.4 pf Input: g1 to (h + k + g2 + b.p.) . 22 pf

Output: p to (h + k + g2 + b.p.) . 9.0 pf

MECHANICAL

Operating Position - Any

Envelope - T-12, Glass

Base - E12-74, Button 12-Pin

Outline Drawing - EIA 12-58

Maximum Diameter 1.563 Inches

Maximum Over-all Length. . . . 3.375 Inches

Maximum Seated Height . . . 3.000 Inches

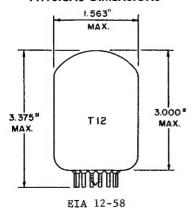
MAXIMUM RATINGS

Design-Maximum ratings are limiting values of operating and environmental conditions applicable to a bogey electron tube of a specified type as defined by its published data and should not be exceeded under the worst probable conditions.

The tube manufacturer chooses these values to provide acceptable serviceability of the tube, making allowance for the effects of changes in operating conditions due to variations in the characteristics of the tube under consideration.

The equipment manufacturer should design so that initially and throughout life no design-maximum value for the intended service is exceeded with a bogey tube under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment, load variation, signal variation, environmental conditions, and variations in the characteristics of all other electron devices in the equipment.

PHYSICAL DIMENSIONS



TERMINAL CONNECTIONS

Pin l - Heater

Pin 2 - Grid Number 2 (Screen)

Pin 3 - Grid Number 1

Pin 4 - Cathode and Beam Plates

Pin 5 - Internal Connection - Do
Not Use

Pin 6 - Internal Connection - Do
Not Use

Pin 7 - Plate

Pin 8 - Internal Connection - Do Not Use

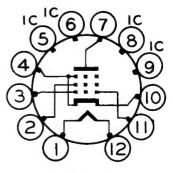
Pin 9 - Internal Connection - Do
Not Use

Pin 10 - Cathode and Beam Plates

Pin 11 - Grid Number 1

Pin 12 - Heater

BASING DIAGRAM



EIA 12BJ

The tubes and arrangements disclosed herein may be covered by patents of General Electric Company or others. Neither the disclosure of any information herein nor the sale of tubes by General Electric Company conveys any license under patent claims covering combinations of tubes with other devices or elements. In the absence of an

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MAXIMUM RATINGS (Cont'd)

HORIZONTAL-DEFLECTION AMPLIFIER SERVICE - DESIGN-MAXIMUM VALUES §

DC Plate-Supply Voltage (Boo	st	+ D0	P	owe:	r S	upp	ly)							770	Volts
Peak Positive Pulse Plate	Vo	1ta	ge					•							6000	Volts
Peak Negative Pulse Plate	Vo	1ta	ge												1500	Volts
Screen Voltage															220	Volts
Negative DC Grid-Number 1	Vo	1ta	ջė												. 55	Volts
Peak Negative Grid-Number	1	Vo1	tage	· .											330	Volts
Plate Dissipation															. 18	Watts
Screen Dissipation															3.5	Watts
DC Cathode Current																Milliamperes
Peak Cathode Current																Milliamperes
Heater-Cathode Voltage	·	•	-	•												
Heater Positive with Re	esp	ect	to	Ca	tho	de										
DC Component															100	Volts
Total DC and Peak.																Volts
Heater Negative with Response					-											
Total DC and Peak.															200	Volts
Grid-Number 1 Circuit Res																Megohms
Bulb Temperature at Hotte															220	C

CHARACTERISTICS AND TYPICAL OPERATION

AVERAGE CHARACTERISTICS

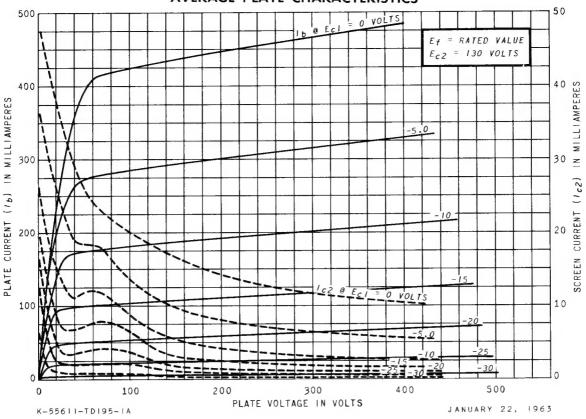
Plate Voltage												5000	60	130	Volts
Screen Voltage													130	130	Volts
Grid-Number 1 Voltage													0#	-20	Volts
Plate Resistance, approximate.													~	11000	Ohms
Transconductance														9100	Micromhos
Plate Current													410	50	Milliamperes
Screen Gurrent													24	1.75	Milliamperes
Grid-Number 1 Voltage, approxim	•	•	•	•	•	•	•	•	•	•	•				
															4.
<pre>Ib = 1.0 Milliamperes</pre>												-66		-33	Volts
Triode Amplification Factor .														4.7	

NOTES

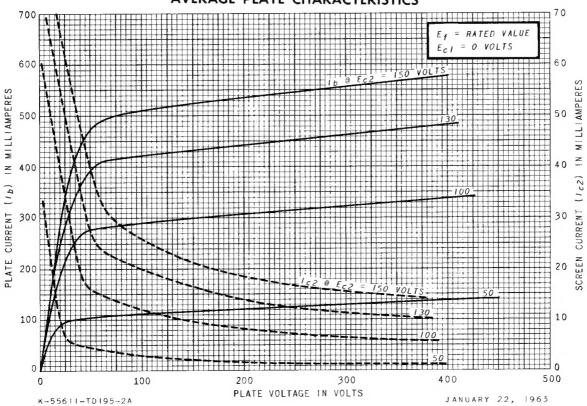
- * The equipment designer should design the equipment so that heater voltage is centered at the specified bogey value, with heater supply variations restricted to maintain heater voltage within the specified tolerance.
- † Heater current of a bogey tube at Ef = 6.3 volts.
- # Without external shield.
- § For operation in a 525-line, 30-frame television system as described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations", Federal Communications Commission. The duty cycle of the voltage pulse must not exceed 15 percent of one scanning cycle.
- ¶ In stages operating with grid-leak bias, an adequate cathode-bias resistor or other suitable means is required to protect the tube in the absence of excitation.
- # Applied for short interval (two seconds maximum) so as not to damage tube.
- Δ Triode connection (screen tied to plate) with Eb = Ec2 = 130 volts and Ec1 = -20 volts.



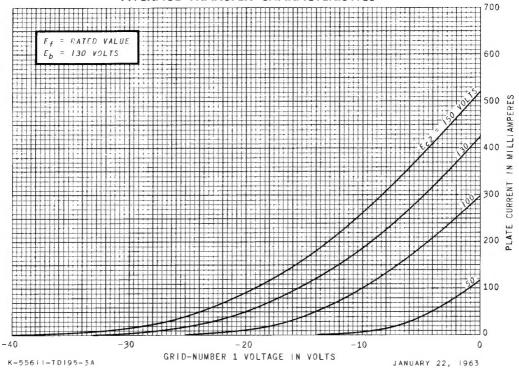
AVERAGE PLATE CHARACTERISTICS



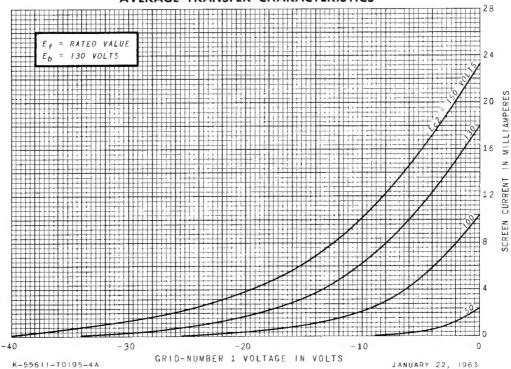




AVERAGE TRANSFER CHARACTERISTICS



AVERAGE TRANSFER CHARACTERISTICS



RECEIVING TUBE DEPARTMENT



Owensboro, Kentucky